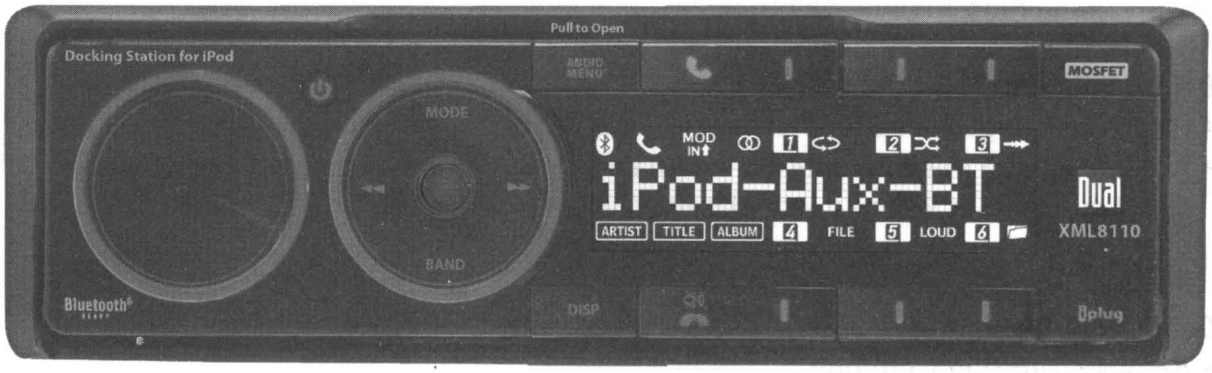


XML8110

INSTALLATION/OWNER'S MANUAL

In-Dash AM/FM/Bluetooth® Ready Docking Station

Made for iPod

iplug™

Bluetooth® READY

Dual®

Preparation

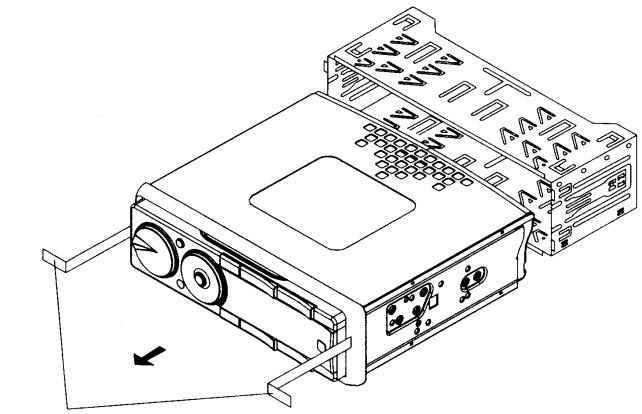
Please read entire manual before installation.

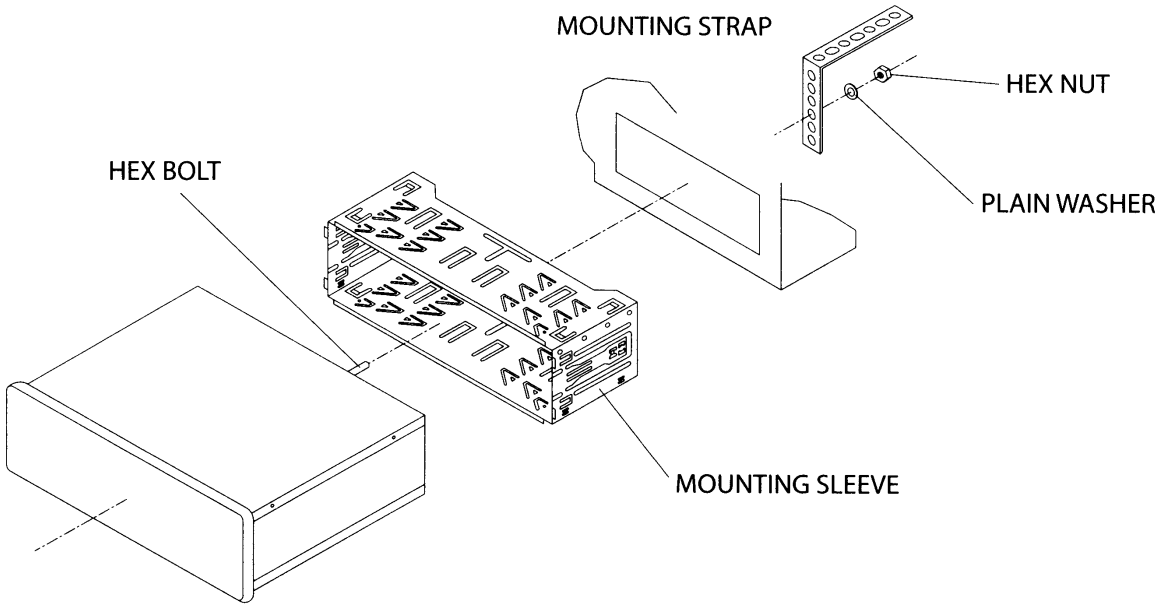
Before You Start

- Disconnect negative battery terminal. Consult a qualified technician for instructions.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight, or where it would be subject to dust, dirt or excessive vibration.

Getting Started

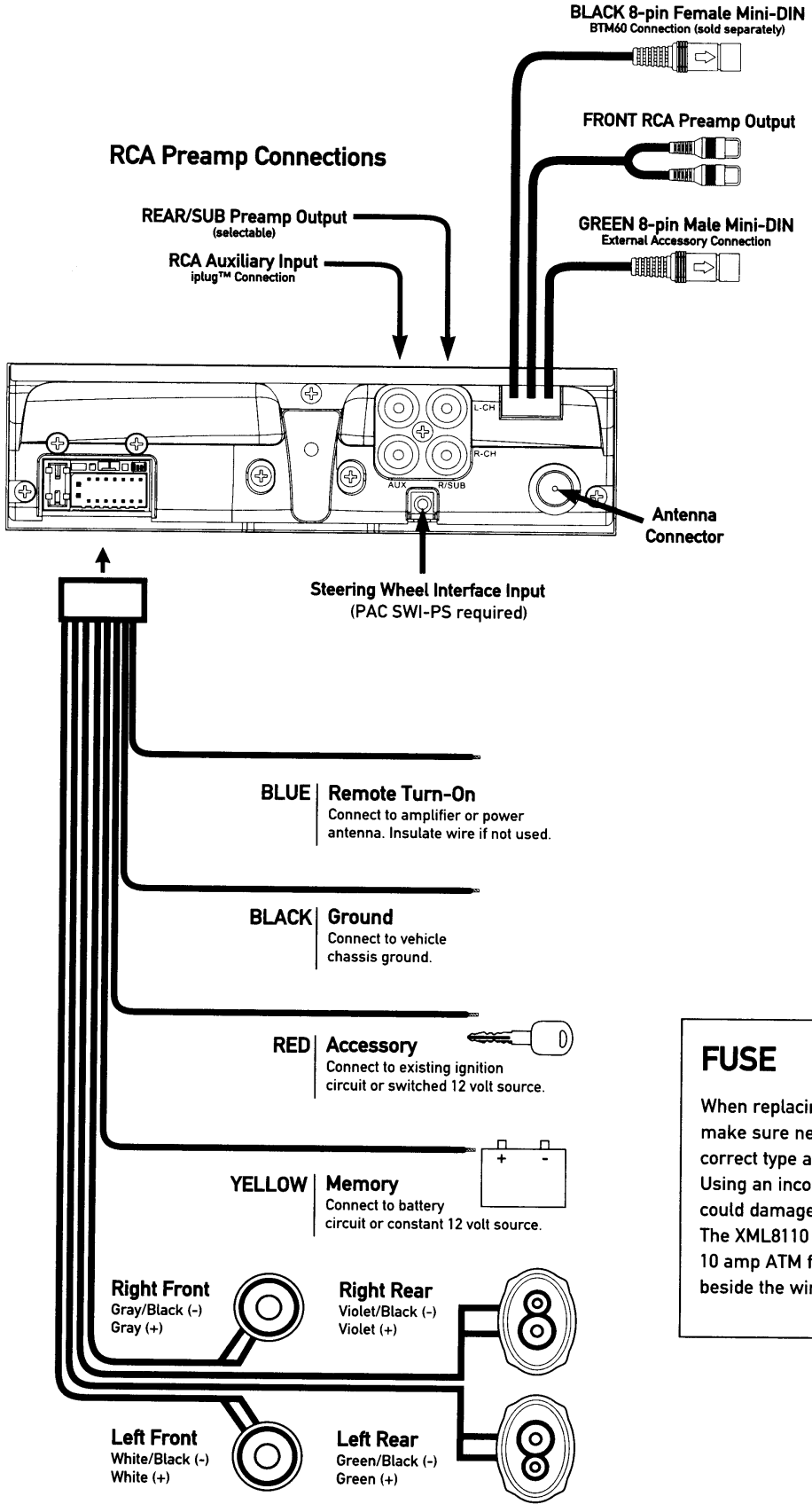
- Remove trim ring from unit.
- Insert the supplied keys into the slots as shown, and slide the unit out of the mounting sleeve.
- Install mounting sleeve into opening, bending tabs to secure.
- Connect wiring harness and antenna. Consult a qualified technician if you are unsure.
- Certain vehicles may require an installation kit and/or wiring harness adapter (sold separately).
- Test for correct operation and slide into mounting sleeve to secure.
- Snap trim ring into place.





TYPICAL FRONT-LOAD DIN MOUNTING METHOD

Wiring Diagram



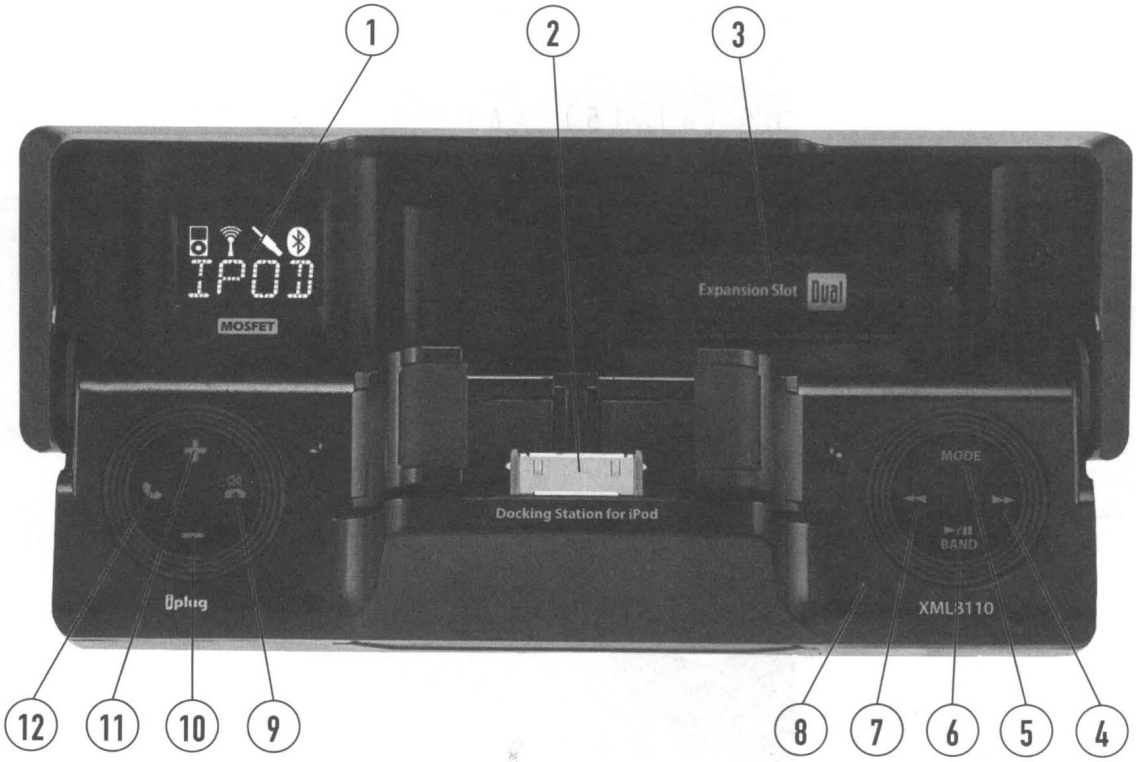
FUSE

When replacing the fuse, make sure new fuse is the correct type and amperage. Using an incorrect fuse could damage the radio. The XML8110 uses one 10 amp ATM fuse located beside the wiring connector.

Control Locations - Receiver (Closed)

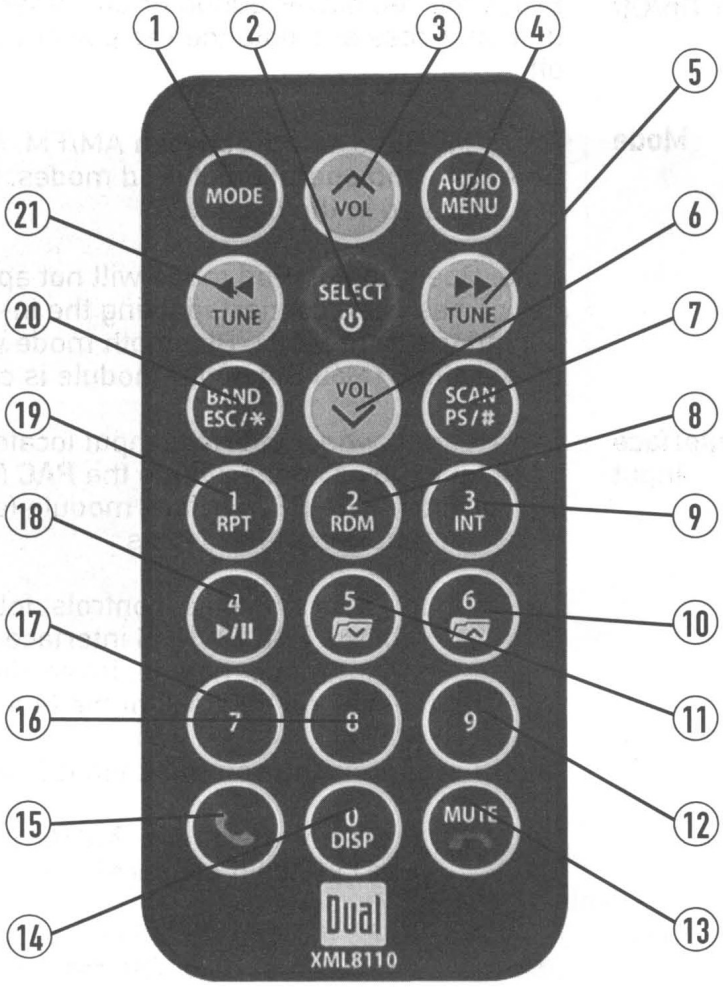
1. Volume
2. Power
3. Tune / Track Down
4. Mode
5. Audio / Menu
6. Talk
7. Preset 1
8. Preset 2
9. Preset 3
10. Preset 6
11. Preset 5
12. Preset 4
13. End Call / Mute
14. Display
15. Tune / Track Up
16. Band

Control Locations - Receiver (Open)



1. LCD Display
2. Dock for iPod®
3. Expansion Slot
4. Tune / Track Up
5. Mode
6. Play / Pause
7. Tune / Track Down
8. Reset
9. End Call / Mute
10. Volume Down
11. Volume Up
12. Talk

Control Locations - Remote



1. Mode
2. Power (⏻)/Select
3. Volume Up
4. Audio / Menu
5. Tune / Track Up
6. Volume Down
7. Scan / PS / Key #
8. Preset 2 / Random
9. Preset 3 / Intro
10. Preset 6 / Folder Up
11. Preset 5 / Folder Down
12. Key 9
13. Mute / End Call
14. Key 0 / Display
15. Talk
16. Key 8
17. Key 7
18. Preset 4 / Play / Pause
19. Preset 1 / Repeat
20. Band / ESC / Key *
21. Tune / Track Down

General Operation

Power On/Off

Press the red power button or any other button to turn the unit on. Press and hold the red power button to turn the unit off.

Mode

Press **MODE** to select between AM/FM, Auxiliary input, Bluetooth and operation of iPod modes. Modes of operation are indicated in the display.

Note: Operation of iPod mode will not appear unless an iPod device has been connected using the in-dash dock located behind the front panel. Bluetooth mode will not appear unless the BTM60 Bluetooth module is connected.

Steering Wheel Interface Input

The steering wheel interface input located on the back of the head unit allows connection to the **PAC (Pacific Accessory Corporation) SWI-PS** interface module (sold separately). Visit www.pac-audio.com for details.

To configure steering wheel controls, follow the instructions provided with the **PAC SWI-PS** interface module. After installing the interface module, insert the module's 3.5mm jack into the port on the back of the head unit.

Volume

Adjust volume using volume knob (00-46).

Mute

Press 🔇 to silence the audio. "MUTE" will flash in the display. Press 🔇 again to cancel.

Reset

Press to **RESET** the unit upon initial installation or if abnormal operation occurs. The reset button is located to the right of the dock, with the front panel open.

Display

Press **DISP** to toggle between items such as clock and radio frequency.

Set the Clock

With the unit on, press and hold **DISP** until the clock begins to flash, then release. Press **TUNE ◄◄** to adjust the hours and **TUNE ►►** to adjust the minutes. Press **DISP** momentarily to save the selected time.

12/24-Hour Clock

The clock will display 12-hour AM/PM time in USA frequency spacing mode (PM 10:00). In European frequency spacing mode, the clock will display 24-hour time (22:00).

Expansion Slot

The expansion slot provides an easy way to upgrade the XML8110 with new features. Check www.dualav.com for more details.

General Operation

Setup Menu	Press and hold **AUDIO/MENU** for more than 3 seconds to access the setup menu, then press **AUDIO/MENU** to cycle through menu options. When desired option appears in the display, rotate the **volume knob** left/right to adjust or activate the desired function.
Menu Exit	Press **BAND** to exit any menu or submenu.

Setup Menu

Menu Function	Options	Action
Auto Station Store	Auto Store	Press the center **SELECT** to seek and save 6 strong stations in the current band. **Note:** This option only appears in Tuner mode.
Tuner Frequency Spacing	Frequency US	Programs unit to USA tuner spacing. (200kHz for FM and 10kHz for AM)
	Frequency EU	Programs unit to European tuner spacing. (50kHz for FM and 9kHz for AM)
Auxiliary Input	Auxiliary On	Enables the rear RCA auxiliary input.
	Auxiliary Off	Disables the auxiliary input.
Rear/Sub RCA output	Rear/Sub Sub	Programs the Rear/Sub RCA preamp output to rear.
	Rear/Sub Rear	Programs the Rear/Sub RCA preamp output to subwoofer.
Loudness Curve	Loud Off	Disables the loudness function.
	Loud On	Enables the loudness function. Activating this feature will enhance the bass and treble frequencies when listening to music at low volumes.
Clock Display	Clock Off	Programs unit to not display the clock when the power is off.
	Clock On	Programs unit to display the clock when the power is off.
Beep Confirmation	Beep Off	Disables the confirmation beep.
	Beep On	Enables the confirmation beep.
Programmable Turn On Volume	Prog-Vol #	Programs unit to turn on at a specific volume (default is OFF).
Local/Distance Tuning	Local Off	Activates distance tuning.
	Local On	Activates local tuning for strong station reception only.
Power on Message	Message Off	Disables power on message.
	Message On	Enables power on message to be displayed.
Scrolling Option	Scroll Once	Programs unit to scroll once, then show the first 10 characters on the display.
	Scroll On	Programs unit to scroll continuously.
	Scroll Off	Programs unit to show the first 10 characters on the display.
Illumination Dimmer	Dimmer High	Programs unit to the brightest illumination level.
	Dimmer Med	Programs unit to the middle illumination level.
	Dimmer Low	Programs unit to the dimmest illumination level.
Demonstration Mode	Demo Off	Disables the demonstration message.
	Demo On	Enables the demonstration message.

General Operation

Audio

Press **AUDIO/MENU** momentarily to select between Bass, Treble, Balance, Fader, EQ, Subwoofer* and Source Volume Level.

→ BASS → TREBLE → BALANCE → FADER → EQ → SUBWOOFER* → SOURCE LEVEL →

Bass

Press **AUDIO/MENU** until **Bass** appears, then rotate the **volume knob** left/right to adjust (-6 minimum / +6 maximum).

Treble

Press **AUDIO/MENU** until **Treble** appears, then rotate the **volume knob** left/right to adjust (-6 minimum / +6 maximum).

Note: Any adjustment to the Bass or Treble settings are automatically saved as the User EQ.

Bass and Treble settings are retained for each mode individually.

Balance

Press **AUDIO/MENU** until **Balance** appears, then rotate the **volume knob** left/right to adjust L12 (left) to R12 (right). Balance L=R represents equal balance.

Fader

Press **AUDIO/MENU** until **Fader** appears, then rotate the **volume knob** left/right to adjust (F12 (front) to R12 (rear). Fader F=R represents equal fader.

EQ

Press **AUDIO/MENU** until **EQ** appears, then rotate the **volume knob** left/right to select between Flat, Pop, Rock, Jazz, Classic, Beat or User equalization curves. Any adjustment to the Bass or Treble settings are automatically saved as the User preset EQ.

Source Volume Level

The source volume level control allows a gain adjustment for each audio source: AM, FM, Auxiliary input, operation of iPod and Bluetooth. Set the source volume level for each mode, depending on the relative volume of each audio source.

To set the source volume level, press **AUDIO/MENU** until SRC LEVEL appears. After one second, the current mode will appear on the display. Turn the **volume knob** to adjust the audio level of the current source (-6 minimum/+6 maximum).

Note: Only the current mode will be available for adjustment. To adjust another mode of operation, press **MODE** until the desired mode is selected, then set the source volume level for that mode.

Subwoofer

Press **AUDIO/MENU** until **Sub-W** appears, then press **SELECT** to confirm. Rotate volume knob left/right to adjust (0-12). Adjusting levels to 0 turns the subwoofer off.

AM/FM Tuner Operation

Seek Tuning

Press **TUNE ◄◄** or **TUNE ►►** for more than one second to seek the next strong station.

Manual Tuning

Press **TUNE ◄◄** or **TUNE ►►** momentarily to move radio frequency up or down one step at a time. Press and hold to advance quickly.

Band

Press **BAND** to select between FM1, FM2, FM3, AM1 and AM2 bands. Up to six presets can be saved for each band.

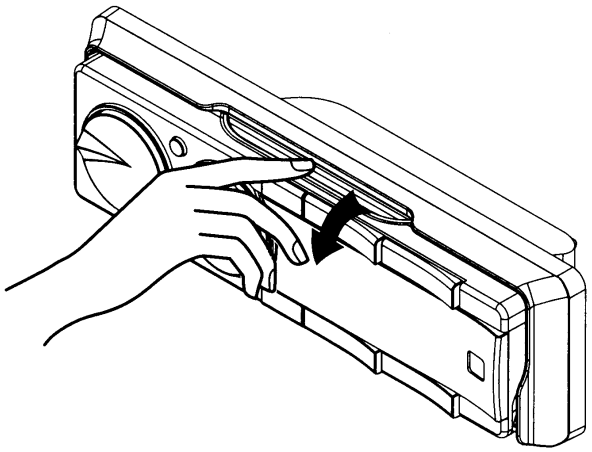
Storing and Recalling Station Presets

Up to 18 FM stations and 12 AM stations can be stored. To store a station, select the desired band and station. Press and hold the desired preset button (1-6) for more than two seconds. When stored, a box will appear around the corresponding preset number in the display. The station can be recalled anytime by pressing the corresponding preset button.

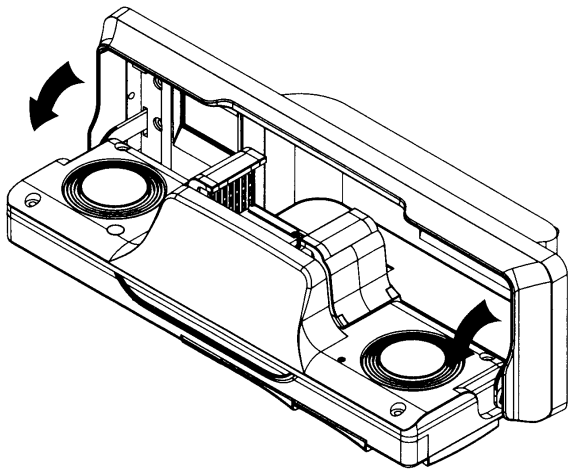
Auto Station Store

To automatically store the 6 strongest stations to preset buttons 1-6 in the current band, press and hold **AUDIO/ MENU** from tuner mode to enter the setup menu. While "Auto Store" is flashing on the display, press the center select button to begin the automatic station storing process.

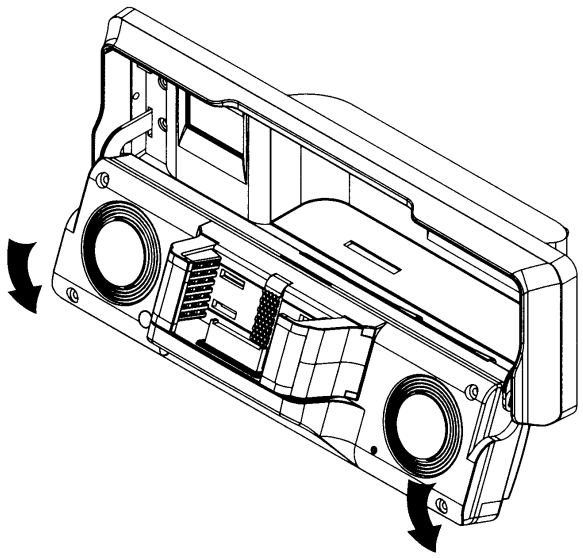
Dock for iPod - Operation



To open the XML8110 and use the dock, pull outward from the top of the front panel.

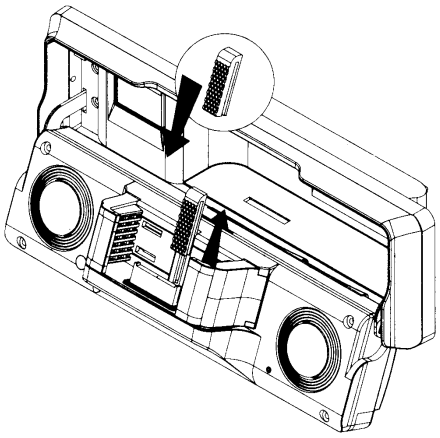


The front panel will rotate open. Continue rotating the front panel downward.



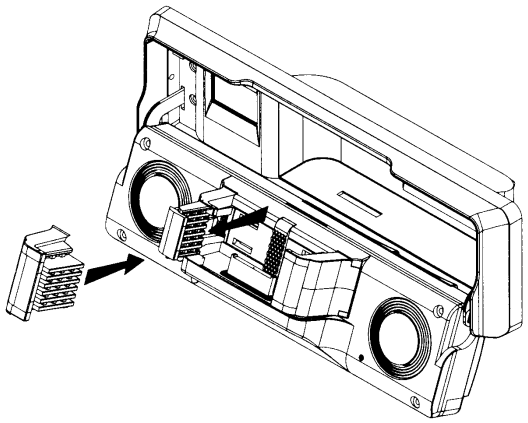
The front panel stops when it reaches the fully open position.

Dock for iPod - Operation



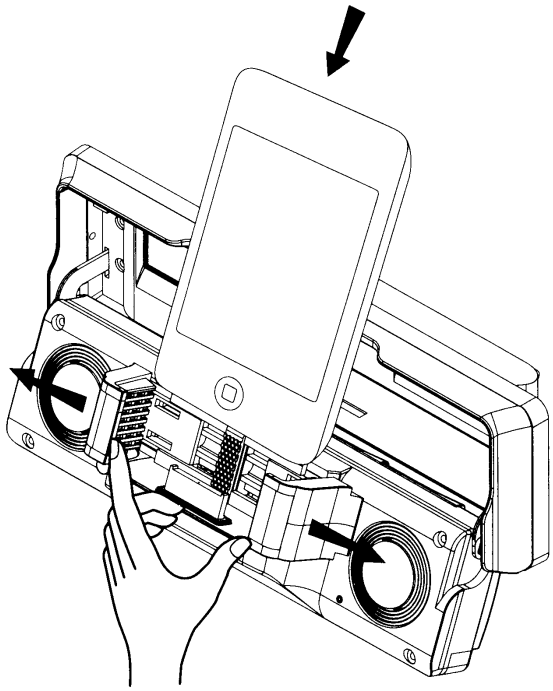
Some iPod devices have a thinner design, and may require changing the rear rubber support at the back of the dock for the best fit.

To change the rear rubber support, pull upward on support to remove it. Then replace the support with the thicker rubber support that is included in the box.



For the 1st generation, 2nd generation and 4th generation iPod nano devices, the left side dock support can be replaced with a larger rubber support, for the best fit.

To change the left side rubber support, pull outward on the rubber support to remove it. Then replace the support with the larger rubber support that is included in the box.



To dock an iPod device, first spread apart the side supports of the dock. Then line up the dock connector and insert the iPod device into the dock. Release the side supports to secure the iPod device.

Operation of iPod

Using the In-Dash Dock for iPod

Insert the iPod device into the XML8110's Docking Station following the instructions on pages 11 and 12.

Control of iPod

The iPod device can be controlled directly from the iPod device controls, or controlled using the inside panel buttons shown below:

Song Select

Press ►► to skip to the beginning of the next song.
Press ◄◄ to return to the beginning of the current song.
Pressing ◄◄ again skips to the beginning of the previous song.

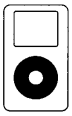
Pause

Press ►/❚❚ to temporarily stop playback.
Press ►/❚❚ again to resume playback.

Volume

During playback, the volume is adjustable using the volume controls on inside panel. When connected, the volume controls on the iPod device are not adjustable.

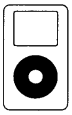
iPod Device Compatibility



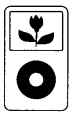
iPod
4th generation
20GB

iPod
5th generation (video)
30GB

iPod touch
1st generation
8GB 16GB 32GB

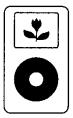


iPod
4th generation
40GB



iPod
5th generation (video)
60GB 80GB

iPod classic
120GB



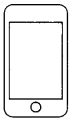
iPod
4th generation (color display)
20GB 30GB

iPod nano
2nd generation (aluminum)
2GB 4GB 8GB

iPod nano
4th generation (video)
8GB 16GB

iPod
4th generation (color display)
40GB 60GB

iPod classic
80GB 160GB



iPod touch
2nd generation
8GB 16GB 32GB

iPod nano
1st generation
1GB 2GB 4GB

iPod nano
3rd generation (video)
4GB 8GB

Bluetooth® Operation

Overview

Connecting a Bluetooth device requires first installing and connecting the **Dual BTM60** Bluetooth interface module (sold separately). When connected to a Dual Bluetooth ready head unit, the BTM60 supports the HFP (hands-free profile), A2DP (advanced audio distribution profile) and AVRCP (audio video remote control profile).

Preparation

Before you can use a mobile device with this head unit, it must be paired and connected. Please make sure that Bluetooth is activated on your mobile device before you begin the pairing process. Refer to the owner's manual of your mobile device for more details.

Bluetooth Pairing

1) To pair a Bluetooth enabled mobile phone to your head unit, press ✆ on the head unit or BTM60, or press **MODE** until "DUAL_BTM60" is displayed.

2) Press and hold ✆ on the head unit or BTM60 for 5 seconds, until "PAIRING" is displayed, the Bluetooth icon will flash every second. The head unit will begin to broadcast the pairing signal for 90 seconds.

3) Complete the pairing from the Bluetooth menu of your mobile device by searching for new devices. Please refer to your mobile device instructions for further information on Bluetooth pairing and connections. The Bluetooth icon will illuminate solid when connected.

The BTM60 device name is "DUAL_BTM60."
The password for the DUAL BTM60 is 1234.

Paired Devices List

The XML8110 will remember the last 8 devices that were paried. To access the list of previously paired devices, follow these instructions:

- Disconnect any mobile device that may be connected by pressing ✆ once.
- Press **DISP** momentarily to cycle through the list of 8 previously paired devices.
- When stopped on a device number 1-8, wait 5 seconds to see the name of the device.
- If the device is not in range of the BTM60, "Unknown" will be displayed.
- Once the desired device is displayed, press ✆ or the center select button to connect.

Connection Notes

- If **AUTO-CON** is set to **OFF** you must press ✆ to connect after pairing, and every time the XML8110 is turned on.

- From Bluetooth standby mode, press ✆ to disconnect your mobile device from the BTM60. If disconnected, press ✆ to reconnect the mobile device that was connected last to the BTM60.

Compatibility

- Due to the differences in Bluetooth technology, some mobile devices may be incompatible or function improperly when used with the BTM60.

Bluetooth® Operation

Function	Description
Making a Phone Call	Press ✆ once. "Enter Number" will be shown, then An "_" will appear on the display.
	Input the desired phone number using the 0-9, *, # buttons on the remote control. Press ✆ to begin dialing.
	A phone call may also be placed from your mobile device using the keypad, phone book or speed dial. When a call is placed from a mobile device, "DIALING" will appear on the head unit display.
Receiving a Phone Call	If an incoming call is detected, the head unit will automatically switch to Bluetooth mode, muting any current audio.
	The incoming phone number will scroll across the display, the phone icon will flash on the display, and a ring tone will be audible from the vehicle speakers. See Bluetooth Settings for speaker configurations.
	Note The ring audio level will depend the mobile device and head unit ring volume and audio settings. If the ringer on the mobile device is off, you may not hear an incoming ring tone.
	Press ✆ to receive a call. The phone icon in the display will illuminate.
During a Phone Call	The head unit will display the elapsed time of the phone call.
	The **volume** knob will adjust the volume of the call.
	Press 🔇 to mute the BTM60's microphone during a call.
Refusing a Call	To refuse an incoming phone call, press and hold ✆ for 3 seconds.
Ending a Phone Call	Hold ✆ for 3 or more seconds to end a call.
	If the phone call was received, the head unit will return to previous mode when call is ended.

Bluetooth® Operation

Function	Description
Recent Call List	To view the 10 most recent calls , press ✆, then press ✆ a second time. "Recent Calls" will be displayed.
	A list of the most recent missed, dialed, or received calls will appear, sorted by time, beginning with the most recent call.
	Press ►► or ◄◄ to cycle through the list of recent calls. When the desired number appears on the display, press the center select button or ✆ to dial the phone number.
Audio Transfer	To transfer the phone call between the head unit and the mobile device, press and hold **DISP** for 3 seconds during a call. **Tip**: transfer audio to your mobile device before turning the head unit off.
Call Waiting	When a second call is incoming, press ✆ to activate call waiting. The current call will be placed on hold, and the second call will be active. Press ✆ again to return to the first call.
Call Hold	Press ✆ to place the current call on hold. To resume the phone call, press ✆ again.

Bluetooth Setup Menu

Menu Function	Options	Action
Bluetooth Mode	Bluetooth ON	Enables the BTM60 Bluetooth Interface Module (included). The Bluetooth icon will flash every 10 seconds when a device is not connected.
	Bluetooth OFF	Disables Bluetooth support.
Auto Connect	Auto-Con ON	Allows the BTM60 to automatically (re)connect to the most recently connected mobile device. **Note**: Some mobile devices do not support this feature.
	Auto-Con OFF	Disables the auto connect feature. You must press ✆ every time to connect a mobile device.
Auto Answer	Auto-Ans OFF	Disables the auto answer feature. Press ✆ to receive an incoming call.
	Auto-Ans ON	All incoming calls will be answered automatically - without notification.
Bluetooth Audio	Speaker 2-CH	Directs the Bluetooth audio to the front speakers.
	Speaker 4-CH	Directs the Bluetooth audio to all 4 speakers.

*See page 7 for Setup Menu navigation

Bluetooth® Operation

Bluetooth Streaming Audio Operation

The XML8110 supports A2DP (advanced audio distribution profile) wireless streaming audio from your Bluetooth mobile device directly to your head unit. You can also control your music from the front panel of the head unit using AVRCP (audio video remote control profile).

Notes:

• To stream music to your head unit, your mobile device must support A2DP and AVRCP Bluetooth profiles. Check the owner's manual of your mobile device

• Streaming audio must be enabled from your mobile device. This option will vary depending on the device. Some devices allow streaming audio to be disabled.

After pairing, connecting and enabling streaming audio from a compatible mobile device, begin playing music using the music player on your mobile device. Once the music is playing, the following functions can be used to control music:

XML8110 front panel:

- The ►► button will skip to the next available audio track.
- The ◄◄ button will skip to the previous audio track.
- The **BAND** button will toggle between play and pause during playback.
- The ↩ button will stop the audio playback.

Remote control:

- The ►► button will skip to the next available audio track.
- The ◄◄ button will skip to the previous audio track.
- The ►/❚❚ button will toggle between play and pause during playback.
- The ↩ button will stop the audio playback.

Bluetooth Reset

Resetting the Bluetooth module will remove the list of paired phones and delete the list of recent dialed, received, and missed calls from memory.

To reset the BTM60 Bluetooth module, press **MODE** to enter Bluetooth standby mode. Press ↩ to disconnect your mobile device, if it is connected. Press and hold **MODE** for 3 seconds to reset the BTM60 module. The unit will display "Reset OK" as confirmation.

Limited One Year Warranty

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

Dual Electronics Corp. warrants this product to the original purchaser to be free from defects in material and workmanship for a period of one year from the date of the original purchase.

Dual Electronics Corp. agrees, at our option, during the warranty period, to repair any defect in material or workmanship or to furnish an equal new, renewed or comparable product (whichever is deemed necessary) in exchange without charges, subject to verification of the defect or malfunction and proof of the date of purchase. Subsequent replacement products are warranted for the balance of the original warranty period.

Who is covered? This warranty is extended to the original retail purchaser for products purchased and used in the U.S.A.

What is covered? This warranty covers all defects in material and workmanship in this product. The following are not covered: installation/removal costs, damage resulting from accident, misuse, abuse, neglect, product modification, improper installation, incorrect line voltage, unauthorized repair or failure to follow instructions supplied with the product, or damage occurring during return shipment of the product.

What to do?

1. Before you call for service, check the troubleshooting guide in your owner's manual. A slight adjustment of any custom controls may save you a service call.

2. If you require service during the warranty period, you must carefully pack the product (preferably in the original package) and ship it by prepaid transportation with a copy of the original receipt from the retailer to an authorized service center.

3. Please describe your problem in writing and include your name, a return UPS shipping address (P.O. Box not acceptable), and a daytime phone number with your shipment.

4. For more information and for the location of the nearest authorized service center please contact us by one of the following methods:

   - Call us toll-free at 1-866-382-5476
   - E-mail us at cs@dualav.com

Exclusion of Certain Damages: This warranty is exclusive and in lieu of any and all other warranties, expressed or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose and any obligation, liability, right, claim or remedy in contract or tort, whether or not arising from the company's negligence, actual or imputed. No person or representative is authorized to assume for the company any other liability in connection with the sale of this product. In no event shall the company be liable for indirect, incidental or consequential damages.

Troubleshooting - General

Problem	Cause	Action
Unit will not turn on (no power)	Yellow wire not connected or incorrect voltage Red wire not connected or incorrect voltage	Check connections for proper voltage (11~16VDC)
	Black wire not connected	Check connection to ground
	Fuse blown	Replace fuse
Unit has power (but no sound)	Speaker wires not connected	Check connections at speakers
	One or more speaker wires touching each other or touching chassis ground	Insulate all bare speaker wires from each other and chassis ground
Unit blows fuses	Yellow or red wire touching chassis ground	Check for pinched wire
	Speaker wires touching chassis ground	Check for pinched wire
	Incorrect fuse rating	Use fuse with correct rating

Specifications

FM Tuner

Tuning range: **87.5MHz-107.9MHz**
Usable sensitivity: **8.5dBf**
50dB quieting sensitivity: **10dBf**
Stereo separation @ 1kHz: **40dB**
Frequency response: **30Hz-13kHz**

AM Tuner

Tuning range: **530kHz-1710kHz**
Usable sensitivity: **22uV**
Frequency response: **30Hz-2.2kHz**

General

Operating voltage: **11-16 VDC, negative ground**
Speaker output impedance: **4~8 ohms**
Line output voltage: **2 Volts RMS**
Dimensions: **7" x 7" x 2" (178 x 178 x 51 mm)**

Design and specifications subject to change without notice.

CEA-2006 Power Standard Specifications
(reference: 14.4VDC +/- 0.2V, 20Hz~20kHz)

Power Output: 18 Watts RMS x 4 channels at 4 ohms and ≤ 1% THD+N
Signal to Noise Ratio: 80dBA (reference: 1 watt into 4 ohms)

FCC Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Dual Electronics Corp.
Toll Free: 1-866-382-5476

www.dualav.com
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"Made for iPod" means that an electronic accessory has been designed to connect specifically to iPod and has been certified by the developer to meet Apple performance standards.

Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

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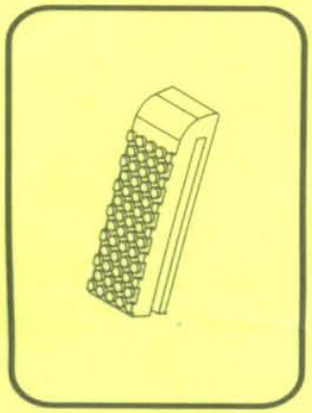
Other trademarks and trade names are those of their respective owners.

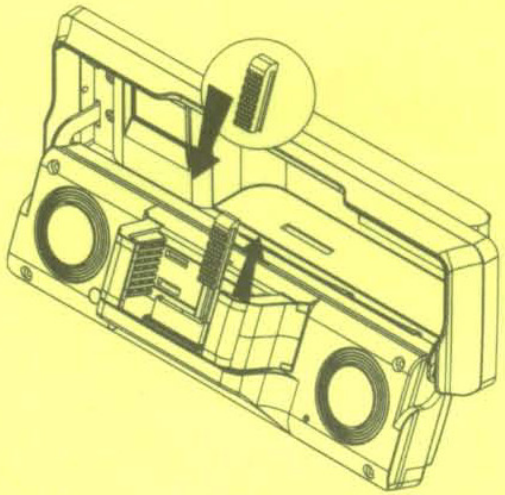
NSA0909-V01

Important iPod Dock Information

The iPod dock includes two additional rubber support brackets that may be changed to accommodate the various sizes of iPod devices. Use the included rubber support brackets to adjust the iPod dock and securely fit your iPod into the dock.

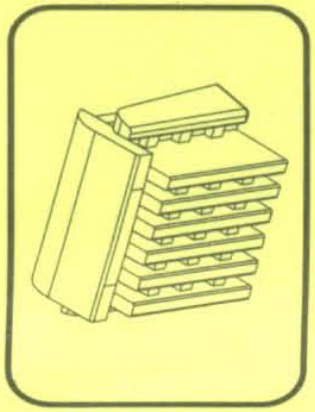


iPod Touch
iPod Nano

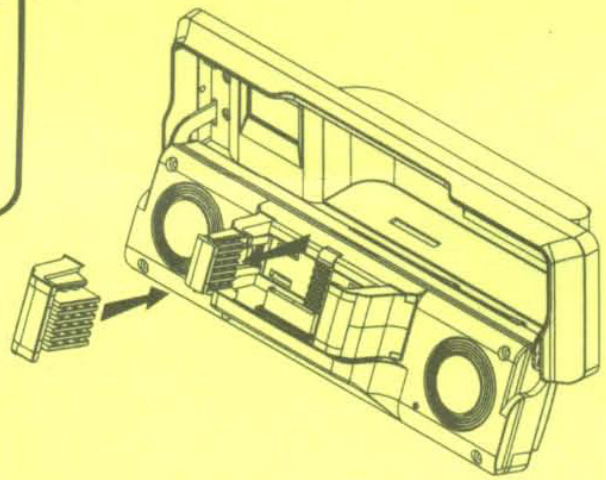


To adjust the depth of the iPod dock and allow for the proper fit of iPod Touch and iPod Nano devices, remove the existing rear rubber support bracket as shown in the illustration above.

Replace the bracket with the larger rear rubber support bracket that is included.



iPod Nano



To adjust the width of the iPod dock and allow for the proper fit of certain iPod Nano devices, remove the existing left side rubber support bracket as shown in the illustration above.

Replace the bracket with the larger left rubber support bracket that is included.

For use with 1st generation, 2nd generation and 4th generation iPod Nano devices with an offset dock connector.